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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,191	05/08/2001	Samuel D. Pritchett	TI-31005	2844

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EXAMINER	
PATHAK, SUDHANSHU C	
ART UNIT	**PAPER NUMBER**
2634	

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	Application No. 09/851,191	Applicant(s) PRITCHETT ET AL.	
	Examiner Sudhanshu C. Pathak	Art Unit 2634	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED September 1st, 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: *1-19*.

   Claim(s) withdrawn from consideration: *20 and 21*.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Attached "Response to Arguments".
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☐ Other: _____.

Shuwang Liu

SHUWANG LIU
PRIMARY EXAMINER

Response to Arguments

1. Applicant's arguments filed on September 1st, 2005 have been fully considered but they are not persuasive.
2. In regards to the arguments presented the AAPA discloses an RF receiver apparatus comprising a mixing circuitry, an analog IF-to-digital baseband converter, and an output as described in Claims 1, 9, 13 & 18. Each of these components **(individually)** and their functionality is disclosed in the AAPA as described below and in Paragraph 3 of the Final Rejection mailed June 28th, 2005.
3. The Applicant Admitted Prior Art (AAPA) discloses an RF receiver apparatus embodied as an integrated circuit (Fig. 1 & Specification, Page 1, Background of Invention, lines 1-3) comprising a mixing circuitry for mixing an analog RF signal down to an analog IF signal (Specification, Page 3, lines 10-12 & Fig. 1, element 17); an analog IF-to-digital baseband converter, coupled to said mixer for converting said analog IF signal into a digital baseband signal, further comprising an analog-to-digital converter (ADC), a digital IF-to-baseband converter and a matched filter (Fig. 1, elements 12, 14, 15); and an output coupled to said analog IF-to-digital baseband converter for transmitting said digital baseband signal (Fig. 1, element 18). The AAPA further discloses a baseband processing apparatus (digital signal processor) formed on a second integrated circuit for performing desired digital communications processing coupled to the output of the converter (Fig. 1, elements 13, 16 & Specification, Page 1, Background of Invention, lines

3-6 & Specification, Page 2, lines 1-2). The AAPA also discloses a matched filter (Fig. 1, element 15 & Specification, Page 2, lines 5-13). The AAPA further discloses the matched filter to include a decimator (Specification, Page 2, lines 14-21 & Fig. 2, element 15 & Specification, Page 3, lines 1-18). The AAPA also discloses an example of the digital IF-to-digital baseband converter to include a CORDIC (Coordinate Rotation Digital Computer) circuit (Fig. 2, element 14 & Specification, Page 2, lines 8-13 & Specification, Page 3, lines 1-18).

4. **However, the AAPA does not disclose the mixing circuitry and the analog IF-to-digital baseband converter circuitry (as disclosed in the AAPA described above) to be implemented on the same integrated circuit.** Therefore, the AAPA does disclose the mixing circuitry and the analog IF-to-digital baseband converter but not on the same integrated circuit. This specific limitation is disclosed in the Troster reference.
5. Troster discloses a bandpass analog-to-digital (ADC) converter, implemented on a 1.2um BiCMOS Analog/Digital array, for a cellular radio mobile (systems) receiver (Abstract, Page 471, lines 1-8). Troster also discloses implementing the ADC wherein the input is an analog IF frequency signal and is converted to digital baseband signal (Page 472, Fig. 1 & Page 471, Section II, Converter Architecture, Right-hand column –to-Page 473, Section II, Converter Architecture, Left-hand column). Troster also discloses implementing the converter architecture using BiCMOS technology used for the fabrication of the mixed array, which has been optimized for high performance analog/digital

(mixed signal) applications and further optimized for prototyping of interfaces between high frequency analog signals and complex digital baseband signals (Page 473, Section III, BiCMOS Implementation, Right-hand column). Troster also discloses the a BiCMOS technology for a monolithic implementation on a single integrated circuit of mixed signal circuit components for processing high frequency analog signals and digital baseband signals (Page 475, Fig. 6 & Page 473, Section III, BiCMOS Implementation, Right-hand column & Page 475, Left-hand Column, Section "Floorplan" & Page 476, Left-hand column, Section V, Conclusion). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Troster teaches implementing a BiCMOS technology for the implementation of a mixed signal (analog/digital) circuit components and further implementing a bandpass analog IF-to-digital baseband converter and this can be implemented in the receiver as described in the AAPA so as to provide a monolithic integrated signal path from a high frequency signal to a baseband signal so as to provide high level integration desired for cellular mobile transceivers.

6. The Troster reference discloses (teaches) the implementation of analog/digital circuitry on the same monolithic integrated circuit. Troster further discloses a component such as an analog IF-to-baseband converter to be implemented on the integrated circuit wherein the input is analog and the output is digital. Furthermore, the mixing circuitry is analog (component) and can be integrated on

the monolithic integrated circuit, the application as disclosed in the Troster reference is cellular so as to provide a complete integrated circuit.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (571)-272-3038. The examiner can normally be reached on M-F: 9am-6pm.

   - If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571)-272-3056
   - The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
   - Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sudhanshu C. Pathak
September 16th, 2005

SHUWANG LIU
PRIMARY EXAMINER